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SUGHRUE MION, PLLC
2100 Pennsylvania Avenue, NW
Washington, DC 20037-3213

EXAMINER

SUCHECKI, KRYSTYNA

ART UNIT PAPER NUMBER

2882

DATE MAILED: 05/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/985,920

Applicant(s)

NECHITAILO, NICHOLAS V.

Examiner

Krystyna Suchecki

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☒ Claim(s) 1, 11 and 24 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 19 March 2003 is: a) ☐ approved b) ☒ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The corrected or substitute drawings were received on 03/19/03. These drawings are acceptable for examination purposes, but formal drawings complying with drawing requirements set forth in the Draftsman's Review (part of paper no. 4) will be required upon allowance.

Claim Objections

2. Claims 1, 11 and 24 are objected to because of the following informalities: Regarding Claim 1, the last limitation regarding immediately adjacent flexible partitions is grammatically incorrect. Use of "whereby" at the beginning of the limitation would fix the error. Regarding Claims 11 and 24, the fiber ribbons have no antecedent. For examination purposes, Examiner assumes some antecedent exists. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 4, 10, 12-14, 17, 22, and 25-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Story (US 5,042,904).

5. Regarding Claims 1 and 14, Figure 3 of Story teaches a fiber optic cable (Column 3, lines 31-35) comprising:

- a. A jacket (12) having an interior jacket surface and an exterior jacket surface;
- b. A core element (10) centrally disposed within the jacket; and

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c. A plurality of flexible partitions (14), wherein each flexible partition extends from said core element to said interior surface of said jacket at an angle that is skewed relative to a surface of said core element [jacket at an angle with respect to a radial line extending from said core element] (Particulars of Figure 3), and

d. Wherein immediately adjacent flexible partitions enclose a volume thereby forming a buffer cell (13), said volume of said buffer cell being immediately adjacent to said core element and configured to rotate in a predetermined direction when a radial crushing force is applied to the exterior jacket surface (Column 5, line 67- Column 6, line 4).

6. Regarding Claims 4 and 17, Story teaches an optic fiber housed in at least one of said buffer cells (Column 3, lines 28-35).

7. Regarding Claims 10 and 22, Story teaches at least one buffer tube (Column 3, lines 28-35) housed in at least one of said buffer cells.

8. Regarding Claims 12 and 25, Story teaches the partitions as color coded (Column 3, lines 46-56).

9. Regarding Claims 13 and 26, Story inherently teaches a cable wherein the skewed partitions deform without breaking or collapsing (Figure 3). Because the Story reference teaches the use of the same angled flexible partitions and buffer cells, it is inherent that the same angled, flexible partitions and buffer cells will have the same properties such as resistance to breaking and collapsing during deformation. (See *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980)).

10. Regarding Claim 27, Figure 3 of Story teaches a fiber optic cable comprising:

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- e. A jacket (12) having an interior jacket surface and an exterior jacket surface;
 - f. A core element (10) centrally disposed within the jacket; and
 - g. A plurality of flexible partitions (14) extending from said core element to said interior surface of said jacket thereby forming at least one buffer cell;
 - h. At least one optic fiber (Column 3, lines 28-35); and
 - i. Wherein said flexible partitions are configured to rotate in a predetermined direction when a radial crushing force is applied to the exterior jacket surface (Column 5, line 67- Column 6, line 4).
11. Regarding Claim 28, Figure 3 of Story teaches a fiber optic cable (Column 3, lines 31-35) comprising:
- j. A jacket (12) having an interior jacket surface and an exterior jacket surface;
 - k. A core element (10) centrally disposed within the jacket; and
 - l. A plurality of partitions (14) extending from said core element to said interior surface of said jacket, said partition having an interior surface and an exterior surface skewed in a substantially parallel direction (Particulars of Figure 3),
 - m. Wherein a buffer cell (13) is formed by said partitions having opposing interior and exterior surfaces, wherein said opposite surfaces are skewed in the same direction.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 2, 5, 15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Story in view of Rutterman et al. (US 6,449,412).

14. Regarding Claims 2, 5, 15 and 18, Story teaches a partitioned fiber cable with crush compensation means in claims 1 and 14 above, but fails to explicitly teach a non-flat or arched ribbon housed in at least one of said buffer cells or a soft cushion housed in at least one of said buffer cells.

15. Rutterman teaches the use of a partitioned fiber cable (Column 4, lines 46-48) wherein non-flat fiber ribbons (Figures 1-4 and 6, items 10) are housed. Figure 6 shows non-flat, or arched, ribbons housed within buffer cells (items 92), and it is known in the art that partitioned fiber cables as mentioned in Rutterman would have a similar use of buffer cells. Buffer material is placed around the fiber ribbon and jacketed in a general place about the fiber ribbon, thus making a non-flat ribbon, for the purpose of inhibiting stress to the optical part of the ribbon (Column 1, lines 51-65 and Column 3). The buffer material, or soft cushion would also aid in stress alleviation of the fibers (Abstract).

16. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include non-flat or arched ribbons and a soft cushion within the buffer cells in the partitioned fiber cable of Story, as taught by Rutterman for the purpose of inhibiting stress to the optical part of the ribbon (Rutterman, Column 1, lines 51-65 and Column 3) and to alleviate stress on optical the fibers of the ribbon (Rutterman, Abstract)

17. Claims 3, 6-9, 11, 16, 19-21, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Story in view of Coleman (US 6,052,502).

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18. Regarding Claims 3, 7-9, 11, 16, 18-21, 23 and 24, Story teaches the use of hybrid communications cable comprising any one of a variety of loose buffered or tight buffered optical fibers (Column 3, lines 31-35) in a cable system that has partitions operably configured to provide protection to fibers against crushing forces applied to the fibers (Particulars of Figure 3). Also taught is the use of water blocking materials to prevent the ingress of moisture and mechanical damage to the optical cable (Column 4, lines 55-63). Story also teaches the use of strength yarn within the cable, and further teaches that the yarn can be in alternative positions other than the central core of the cable (Column 4, 35-46).

19. Story does not teach the use of flat fiber ribbons, or water swellable tape. Story does not explicitly teach the use of strength yarn in a buffer cell of an optical fiber cable.

20. Coleman teaches the use of fiber ribbons in buffer tubes within the buffer cells of a partitioned cable. The ribbons are within buffer tubes and are surrounded by water blocking tape or strength yarn (Column 3, lines 7-49). Fiber ribbons are used to increase fiber count of the cable (Column 1, lines 4-49) and the water blocking material or strength yarn is used to provide crush resistance and an ample tensile window to the cable (Column 1, line 53- Column 2, line 24).

21. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the flat fiber ribbons of Coleman to the buffer cells of Story in order to increase fiber count of the cable (Column 1, lines 4-49). The increase in fiber count would add an additional benefit to the cable of Story, the benefit being reduced interference and cross-talk between field service technicians on the party-line system of Story. The partition system of Story would naturally lend protection to the fiber ribbons against crushing forces

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applied to the fiber ribbons, since both the buffered fibers of Story and the buffered fiber bundles of Coleman can be in buffer cells (Story, Column 3, lines 31-35, and Coleman, Figures 5-6). The use of water blocking tape or strength yarn in the system of Story would also have been obvious to one of ordinary skill in the art at the time the invention was made since it would provide crush resistance and an ample tensile window to the cable (Coleman, Column 1, line 53- Column 2, line 24) and to prevent the ingress of moisture and mechanical damage to the optical cable (Story, Column 4, lines 55-63).

22. Regarding Claims, 6 and 19 Story teaches Claims 1 and 14 above, but fails to teach a ripcord housed in at least one of said buffer cells.

23. Coleman teaches a ripcord (19) disposed along an inner surface of a tape material (20), understood to mean the ripcord can be housed in at least one of said buffer cells of Coleman's slotted core cable (Column 3, lines 44-46). It is understood in the art to include a ripcord in a cable for the purpose of allowing quick access to the contents of a cable without having to cut the cable along a lengthwise dimension.

24. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a ripcord within the buffer cell of Story as taught by Coleman for the purpose of allowing quick access to the contents of a cable without having to cut the cable along a lengthwise dimension. The use of the ripcord would additionally enhance Story's goal of avoiding unnecessary cutting of the cable and cable components (Column 3, lines 54-57 and Column 5, lines 13-15).

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Response to Arguments

25. Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Patent to Yataki (US 4,474,426) is of interest for teaching an alternative buffer cell with skewed partitions (Figure 4c) to withstand compressive forces (Column 1, lines 13-18).

27. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

28. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krystyna Suchecki whose telephone number is (703) 305-5424. The examiner can normally be reached on M-F 8-6, with alternating Fridays off.

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30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

31. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4900.

ks
April 30, 2003


DAVID V. BRUCE
PRIMARY EXAMINER